



Office tower | Photo source [Pixabay](#)

BREATHABLE FACADE COOLS ECO-FRIENDLY OFFICE TOWERS

 TELECOMMUNICATIONS

Gensler Tower at PNC Plaza uses a passive ventilation system to control temperature, providing offices with fresh air and significantly reducing energy usage.

We are seeing more examples of architecture that marry sustainability with design, such as these solar energy generating [stain glass windows](#). US-based [Gensler](#) have created a passive ventilation system, which ‘breathes’ to regulate building temperature.

The facade of the Tower at PNC Plaza, Pittsburgh OH, works by having a ‘double skin’ where two panes of glass are separated, creating a cavity that fresh air can flow into. When sensors determine weather condition and temperature to be optimum, they open up, cooling the building with fresh air. A solar chimney works in tandem to create a ventilation system — it pulls stale air through open windows as it warms and rises. Most buildings require air-con on hot days, recycling stale air or actively pumping it outside. Gensler’s system requires zero net energy under these conditions — the natural ventilation system is independently activated by solar, which is predicted to work 42 percent of the year. Combined with other eco-friendly features such as large amounts of natural light and rain-capture recycling, this building can reduce energy consumption by 50 percent.

At comparable building costs, Gensler’s ventilation system will massively reduce energy consumption, especially in sunny climates. Could this work in high-rise apartments, too?

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